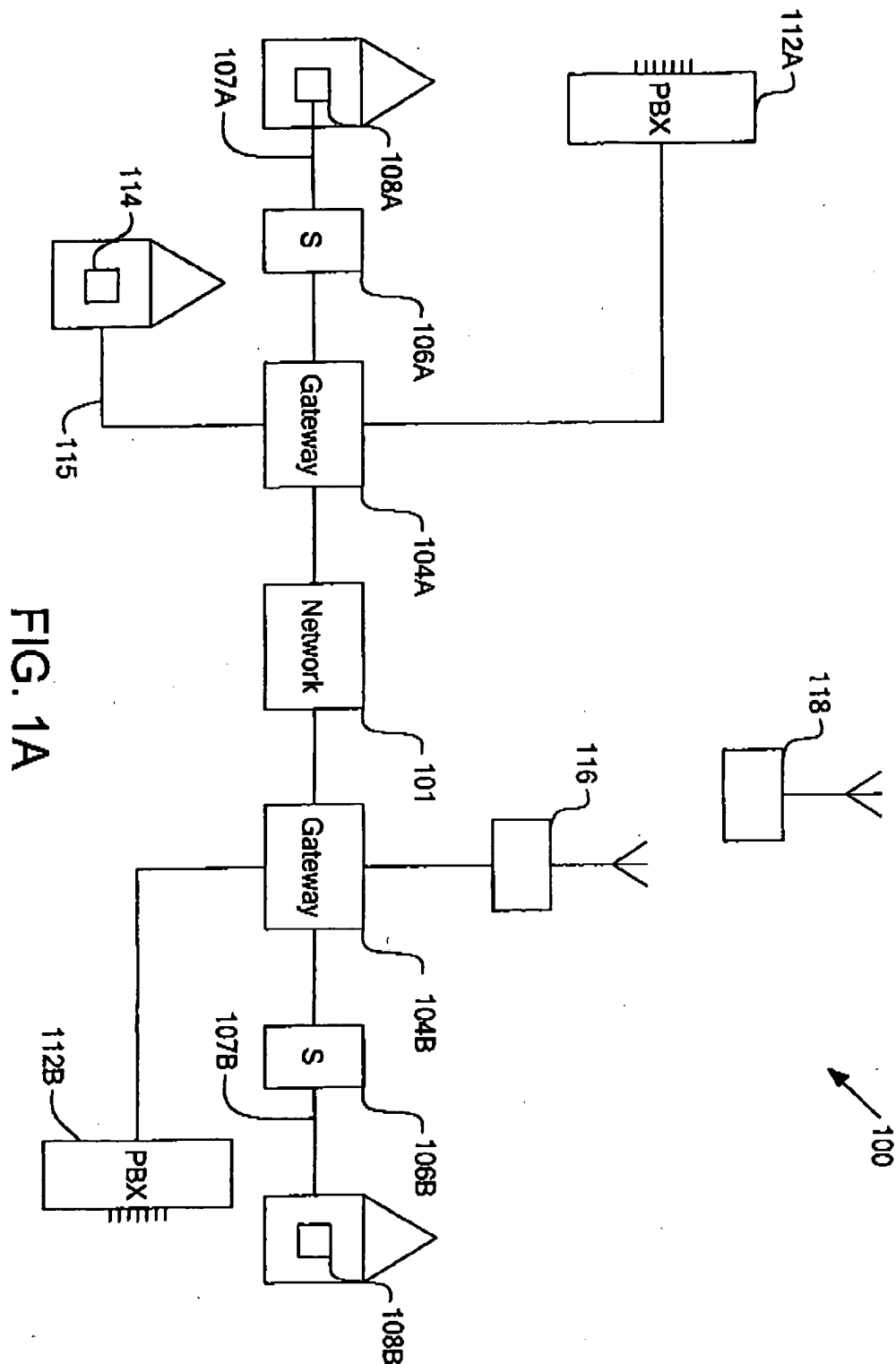


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Application No.: 09/938,104
Page 2

IN THE DRAWINGS:

Please replace the originally filed Figs. 1-18 with the replacement Figs. 1-18 filed
herewith.

Replacement Sheet 09/938/04



Replacement Sheet 09/938 104

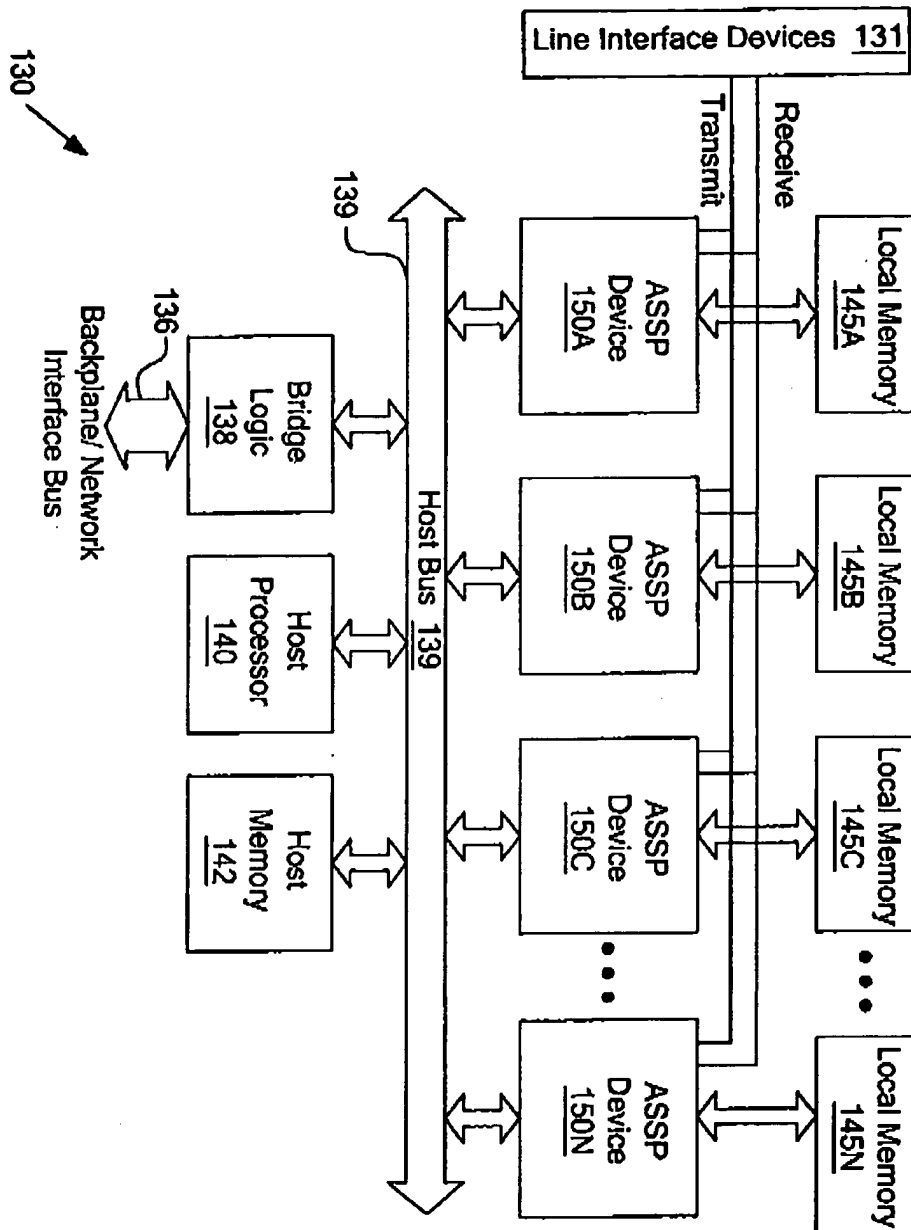


FIG. 1B

Replacement Sheet 09/938 104

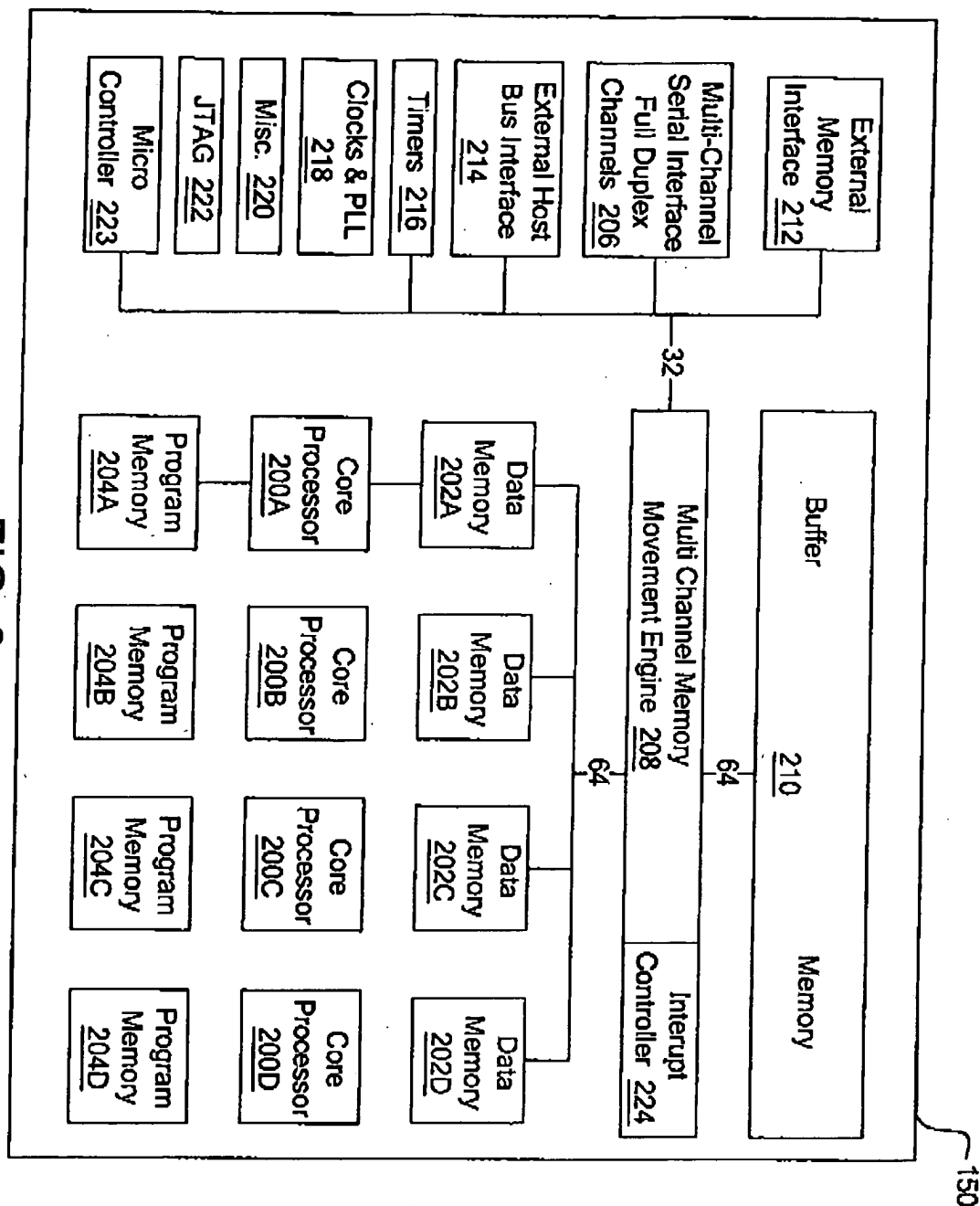


FIG. 2

Replacement Sheet 09/938104

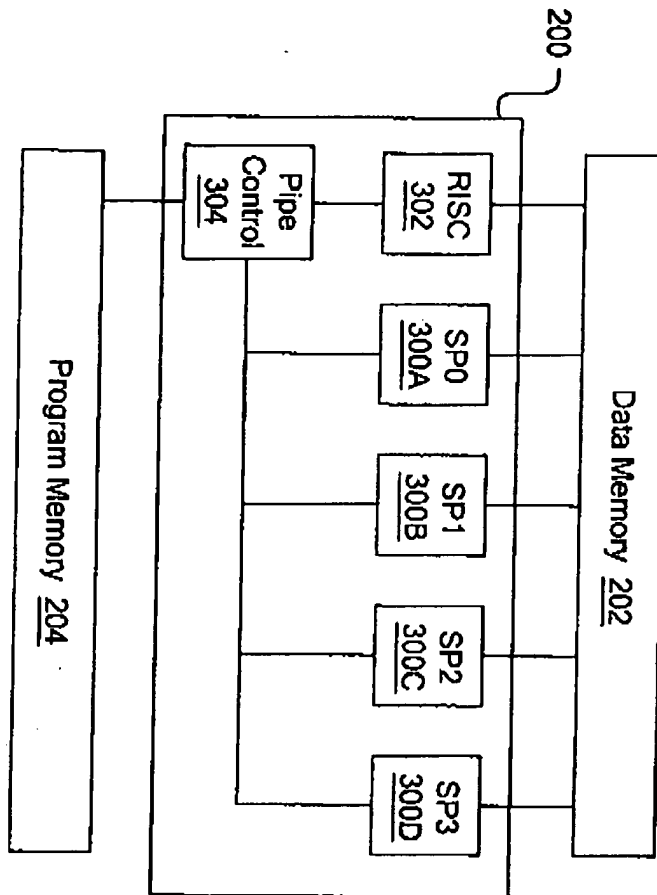


FIG. 3

Replacement Sheet 09/938104

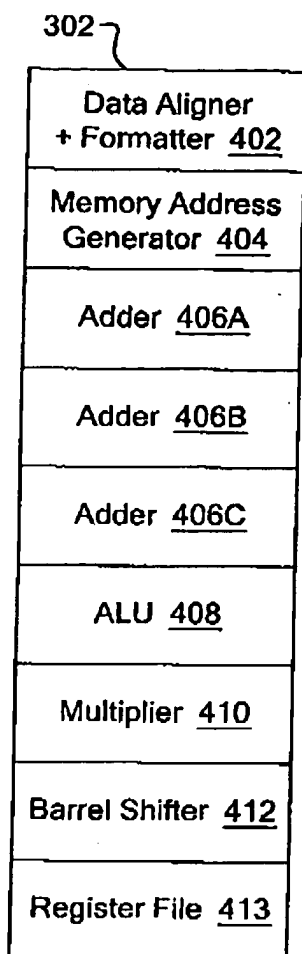


FIG. 4

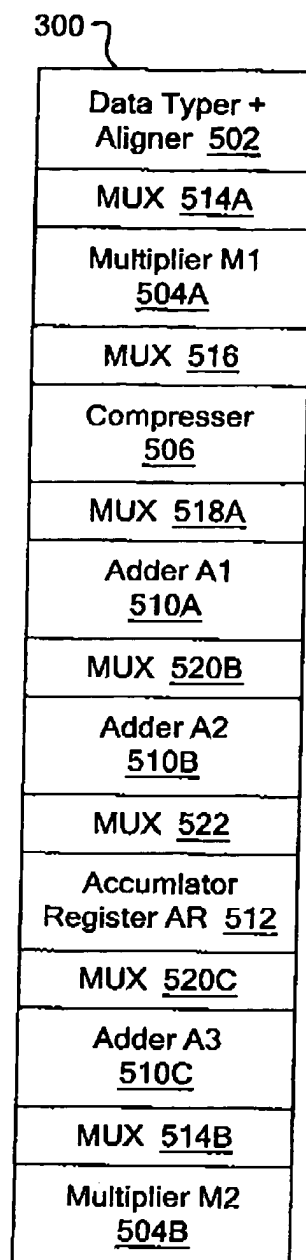


FIG. 5A

Replacement Sheet 09/938 104

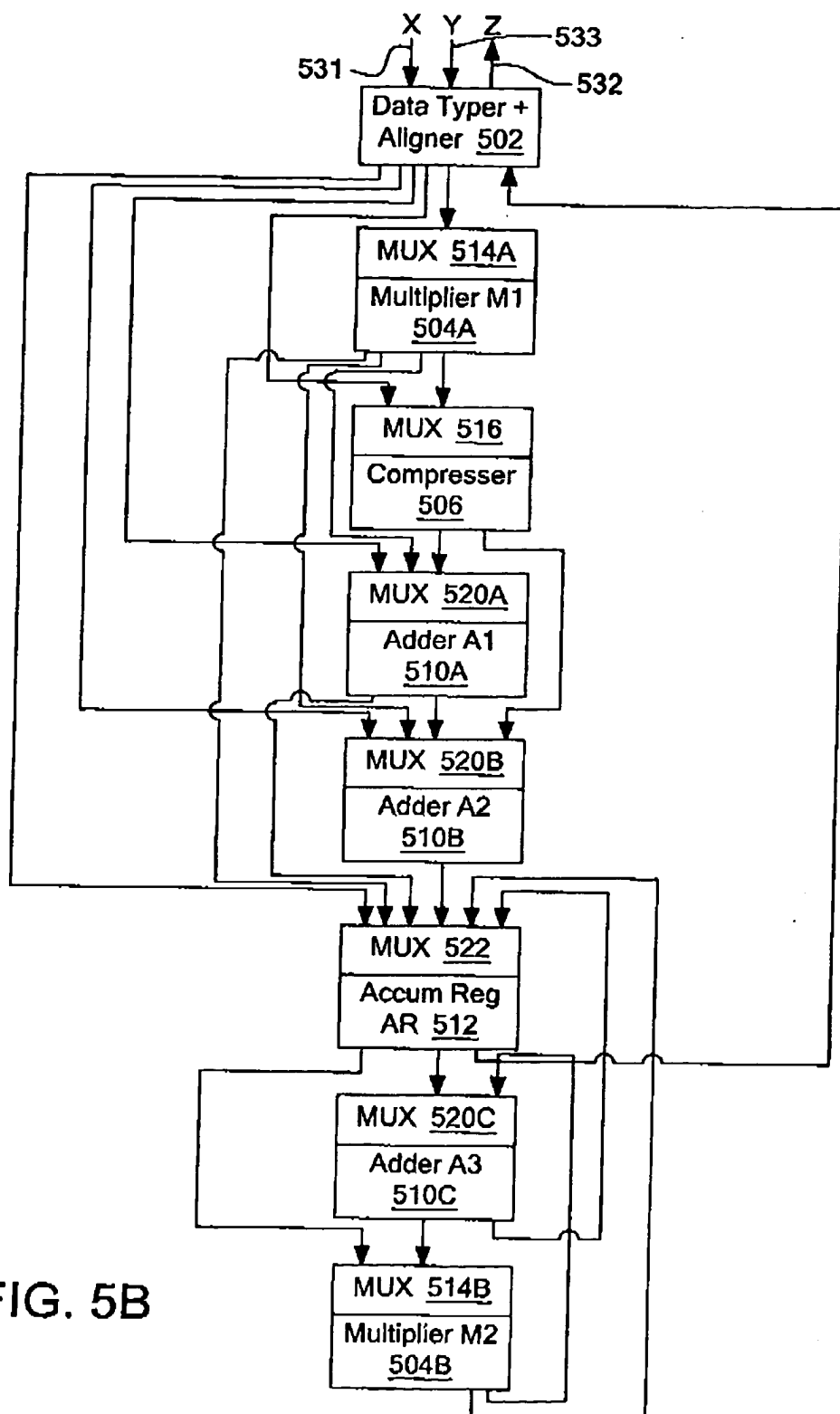


FIG. 5B

Replacement Sheet 09/938104

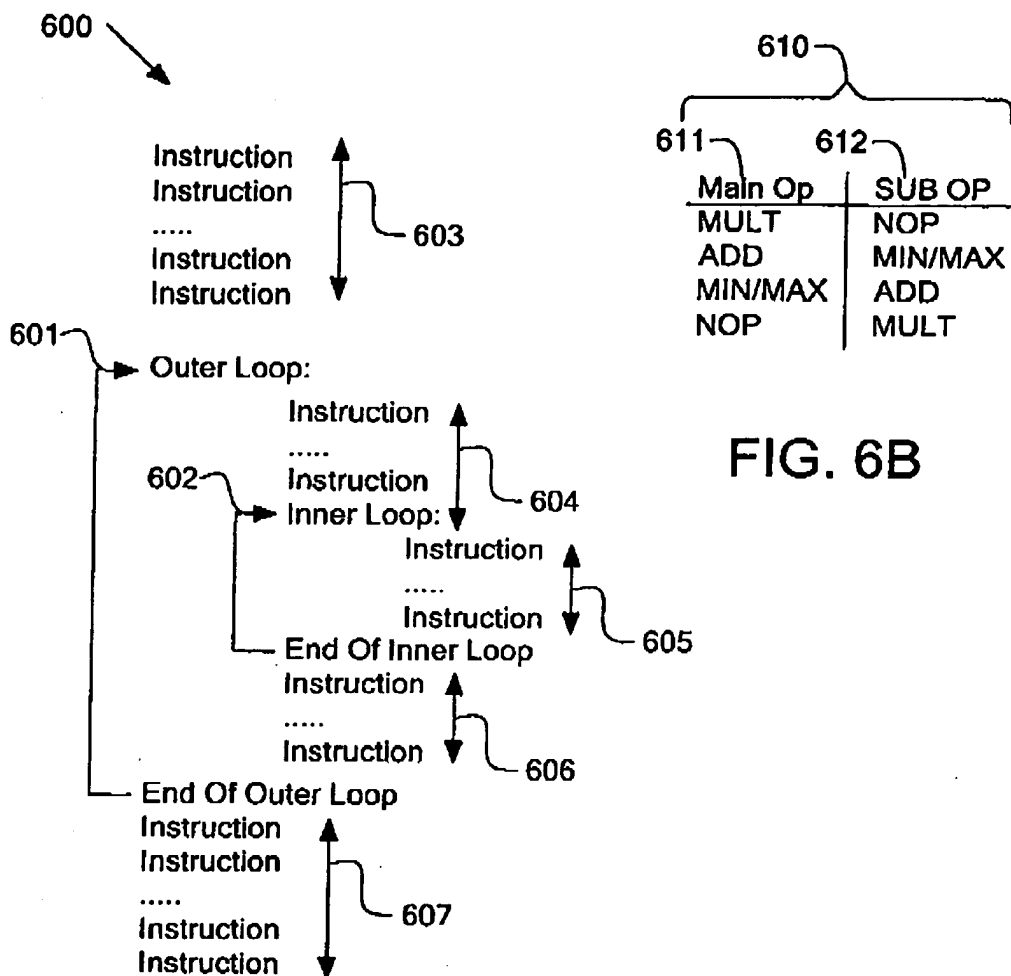


FIG. 6B

FIG. 6A

Replacement Sheet 09/938 104

39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0				
1	0	0	PS	S*	SX	SY	V/S	SA	DA	Subop	1	Pred	FL	Sat	S/R	Rnd	S'	S*	S*	0	SA	DA	abs	0	0																		
										da = +/- SX/SY										Nop										0	0	0	0										
										da = +/- (SX/SY)/SA										Add										0	0	0	1										
										da = +/- (SX/SA)/SY										Add										0	1	0											
										da = +/- (SX/SY)/SA										Sub										0	1	1											
										da = +/- (SX/SA)/SY										Sub										1	0	0											
										da = min(+/- SX/SY/SA)										Min										1	0	1											
										da = min(+/- SX/SA)/SY										Min										1	1	0											
										da = max(+/- SX/SY/SA)										Max										1	1	1											
																														L1													
																														L1													
																														L1													
																														L1													
																														Gx													
																														Gx													
																														Gx													

FIG. 6C

39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20																					
1	0	0	PS	S*	SX					SX					V/S	SA	DA	0	1	0																				
																														Add										
																														Subs										
																														Min										
																														1	0	0	1	0	0	1	1	0		

FIG. 6D

Replacement Sheet 09/938 104

20-bit ISA

39	18
0	0
0	1
1	0
1	1

 20-bit parallel
 20-bit serial
 40-bit extended
 20-bit serial

 Control # Control
 Control # Control
 DSP, extensionsShadow
 DSP # DSP

DSP Instructions

Multiply

39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
1	0	0	0	PS	S*	SX	SY	V/S	SA	DA	Sub-op	0	0	0	0	0	0	0	0

da = sx*sy

da = (sx*sy) + ba

da = (sx*sa) + sy

da = (sx*sy) - sa

da = (sx*sa) - sy

da = min(sx*sy, sa)

da = min(sx*sa, sy)

da = max(sx*sy, sa)

da = max(sx*sa, sy)

da = sx + sy

da = sx + sy + sa

da = sx + sy; sa = sx + sy;

da = (sx + sy) * sa

da = -(sx + sy) * sa

da = min(sx + sy, sa)

da = max(sx + sy, sa)

da = sum(sx, sy)

da = ext(sx, sy)

da = ext(sx, sy, sa)

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) + sy

da = ext(sx, sa) - sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

da = ext(sx, sa) * sy

type-match	1	1	0	PS	0	SX	SY	x	x	x	x	1	1	1	1	1	1	1	1
Permuto	1	1	0	PS	1	SX	Type	x	x	ereg	x	1	1	1	1	1	1	1	1
Reserved	1	1	1	PS	x	SX	SY	SA	DA	V/S	Sub-op	1	1	1	1	1	1	1	1

FIG. 6E1

Replacement Sheet 09/938104

Control and Specifier Extensions

19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
----	----	----	----	----	----	----	----	----	----	---	---	---	---	---	---	---	---	---	---

0	Pred	PL	Sxt	Syl	Rnd	Lf	S'	S'	S'	0	SA	DA	abs	0	0
---	------	----	-----	-----	-----	----	----	----	----	---	----	----	-----	---	---

AddSub
min/max

Add

0	Pred	PL	Sxt	Syl	Lf	Sub-ext	0	SA	DA	abs	0	0
						+/-	+/-	+/-	x			
						x	V/S	Rnd	Fp			
						lf-cll	Gx	Gx	Fp			

Nop
Min/Max
Min/Max

Ext

0	Pred	PL	Sxt	Syl	Lf	Gx	Sub-ext	0	SA	DA	abs	0	0
						Lf	Fp						
						Rnd	V/S						

AddSub
Mul

0	Pred	PL	Sxt	PeH	0	ereg	PeH	0	0
---	------	----	-----	-----	---	------	-----	---	---

Type/offset/permute extensions

19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
----	----	----	----	----	----	----	----	----	----	---	---	---	---	---	---	---	---	---	---

0	Pred	PL	X	Type: SX	Type: SY	0	SA	DA	x	0	1
0	Pred	PX	Psx	Permute: SX	Permute: SY	0	SA	DA	Psy	1	0
0	Pred	LR	Prx	Offset: SX	Offset: SY	0	SA	DA	Prx	1	1

Type override
Permute override
Offset override

Shadow DSP

19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0	Op	PL	op	ereg	ereg	1	SA	DA	Sub-op										

FIG. 6E2

Replacement Sheet 09/938 104

	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
addsub	L	Pred	0	0	0			RX				RX				RZ			4-	0
maxmin	L	Pred	0	0	0			RX				RX				RZ			X/N	1
Shift	L	Pred	0	0	0			RX				U4				RZ			U1	R/L
Logic	L	Pred	0	1	0			RX				RX				RZ			&	&
Mux	L	Pred	0	1	1			RX				RX				RZ			Pd	0
mov	L	Pred	0	1	1			RX				RX				RZ			0	1
addl	L	Pred	0	1	1			S14				RZ				RZ			0	1
mov2reg	L	Pred	0	1	1			RX				RZ				RZ			0	1
ldm	L	Pred	0	1	1			RX				RZ				RZ			0	1
bits	L	Pred	0	1	1			RX				RZ				RZ			0	1
bits	L	Pred	0	1	1			RX				RZ				RZ			0	1
Setbit	L	Pred	1	0	0			U4:POS				RZ				RZ			0	1
Movt	L	Pred	1	0	0			U4:POS				RZ				RZ			0	1
Jump	L	Pred	1	0	0			U4:POS				RZ				RZ			0	1
Call	L	Pred	1	0	0			U4:POS				RZ				RZ			0	1
Loop	L	Pred	1	0	1			S18				RZ				RZ			0	1
Impl	L	Pred	1	0	1			S19				RZ				RZ			0	1
Call	L	Pred	1	0	1			S19				RZ				RZ			0	1
Loopi	L	Pred	1	0	1			S19				RZ				RZ			0	1
Test	L	Pred	1	1	0			RX				RZ				RZ			0	1
Testbit	L	Pred	1	1	0			RX				RZ				RZ			0	1
Andp,orp	L	Pred	1	1	0			RX				RZ				RZ			0	1
Load	L	Pred	1	1	1			Pa				RZ				RZ			0	1
Store	L	Pred	1	1	1			Pa				RZ				RZ			0	1
eload	L	Pred	1	1	1			Pa				RZ				RZ			0	1
estore	L	Pred	1	1	1			Pa				RZ				RZ			0	1
Extended	L	Pred	1	1	1			Pa				RZ				RZ			0	1
Logic2	L	Pred	1	1	1			Pa				RZ				RZ			0	1
mov-reg	L	Pred	1	1	1			Pa				RZ				RZ			0	1
Cro	L	Pred	1	1	1			Pa				RZ				RZ			0	1
Parly	L	Pred	1	1	1			Pa				RZ				RZ			0	1
Sim	L	Pred	1	1	1			Pa				RZ				RZ			0	1
Abs	L	Pred	1	1	1			Pa				RZ				RZ			0	1
Neg	L	Pred	1	1	1			Pa				RZ				RZ			0	1
Div-step	L	Pred	1	1	1			Pa				RZ				RZ			0	1
Set	L	Pred	1	1	1			Pa				RZ				RZ			0	1
Reserved	L	Pred	1	1	1			Pa				RZ				RZ			0	1
Return	L	Pred	1	1	1			Pa				RZ				RZ			0	1
Zero-ac	L	Pred	1	1	1			Pa				RZ				RZ			0	1
esync	L	Pred	1	1	1			Pa				RZ				RZ			0	1
Swi	L	Pred	1	1	1			Pa				RZ				RZ			0	1
Nop	L	Pred	1	1	1			Pa				RZ				RZ			0	1

FIG. 6F

<Bit1, Bits3-6> == U15 (Shift Amount)

<Bit3, Bits13-10> == U15 POS

Extended Control

[illegible]

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[illegible]

FIG. 6H

Replacement Sheet 09/938104

7-bit specifier: Parallel Store, Parallel Load in DSP Instructions

6	5	4	3	2	1	0
---	---	---	---	---	---	---

M/R

0	0	0	SPR: p0-p15
0	0	1	reserved
0	1	0	sc-names
0	1	1	ppr: r0-r15
0	1	1	plr: r0-r15
1	1	1	plr (r0) to (r15)
1	1	1	plr st U14
1	1	1	plr

Mem(pir) || p1r += kds
Mem(p1r + kds)

p1r: p14, p15

Always postupdate
Always preupdate

6-bit specifier: DSP Instructions

5	4	3	2	1	0
---	---	---	---	---	---

M/R

0	0	sc-names
0	1	ppr: r0-r15
1	1	plr (r0) to (r15)
1	1	plr

Always postupdate

5-bit specifier: RISC Instructions

4	3	2	1	0
---	---	---	---	---

0	0	SPR: p0-p15
0	0	PPR: r0-r15

4-bit specifier:

3	2	1	0
---	---	---	---

AR

0	0	PPR: r0-r15
0	0	plr (r0-r15)
0	0	ereg

RISC Instructions
20-bit DSP Instructions
20-bit Shadow DSP Instructions

31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
type				permute				C8		idx1 U(0-7)		idx0: S16 (-10 to 15)																		plr	

FIG. 6I1

Replacement Sheet 09/938/04

[illegible]

FIG. 6I2

Replacant Sheet 09/938104

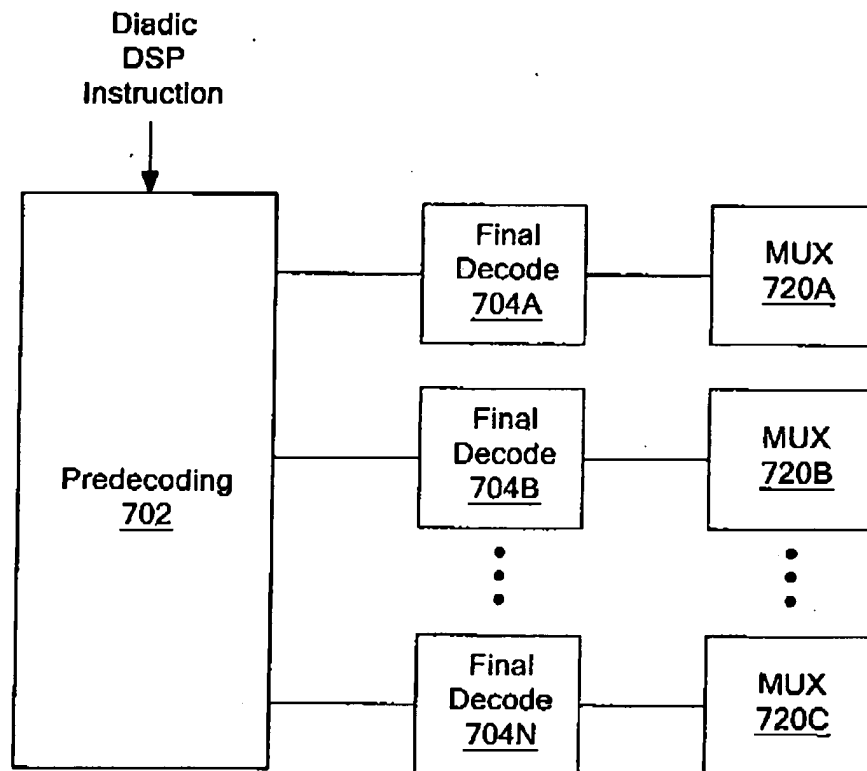


FIG. 7

Replacement Sheet 09/938 104

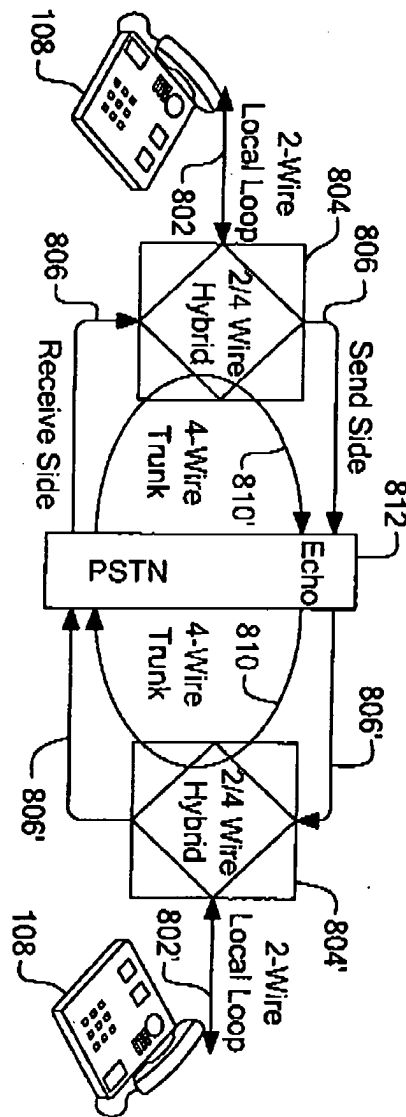


FIG. 8
(Prior Art)

Replacement Sheet 09/938104

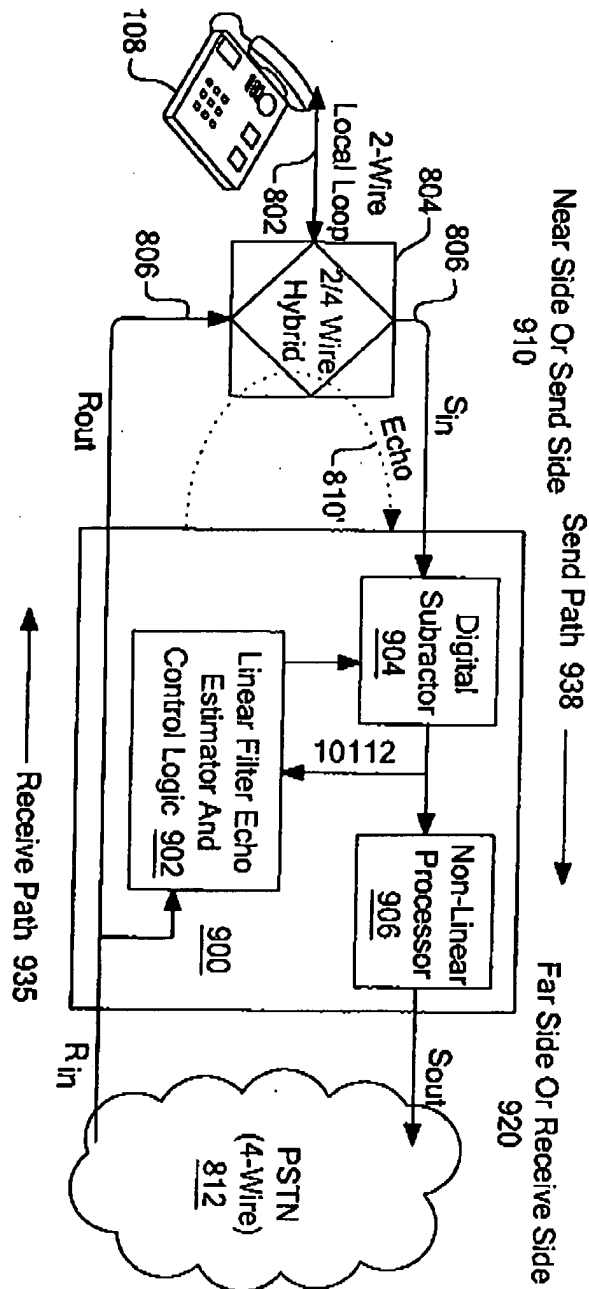
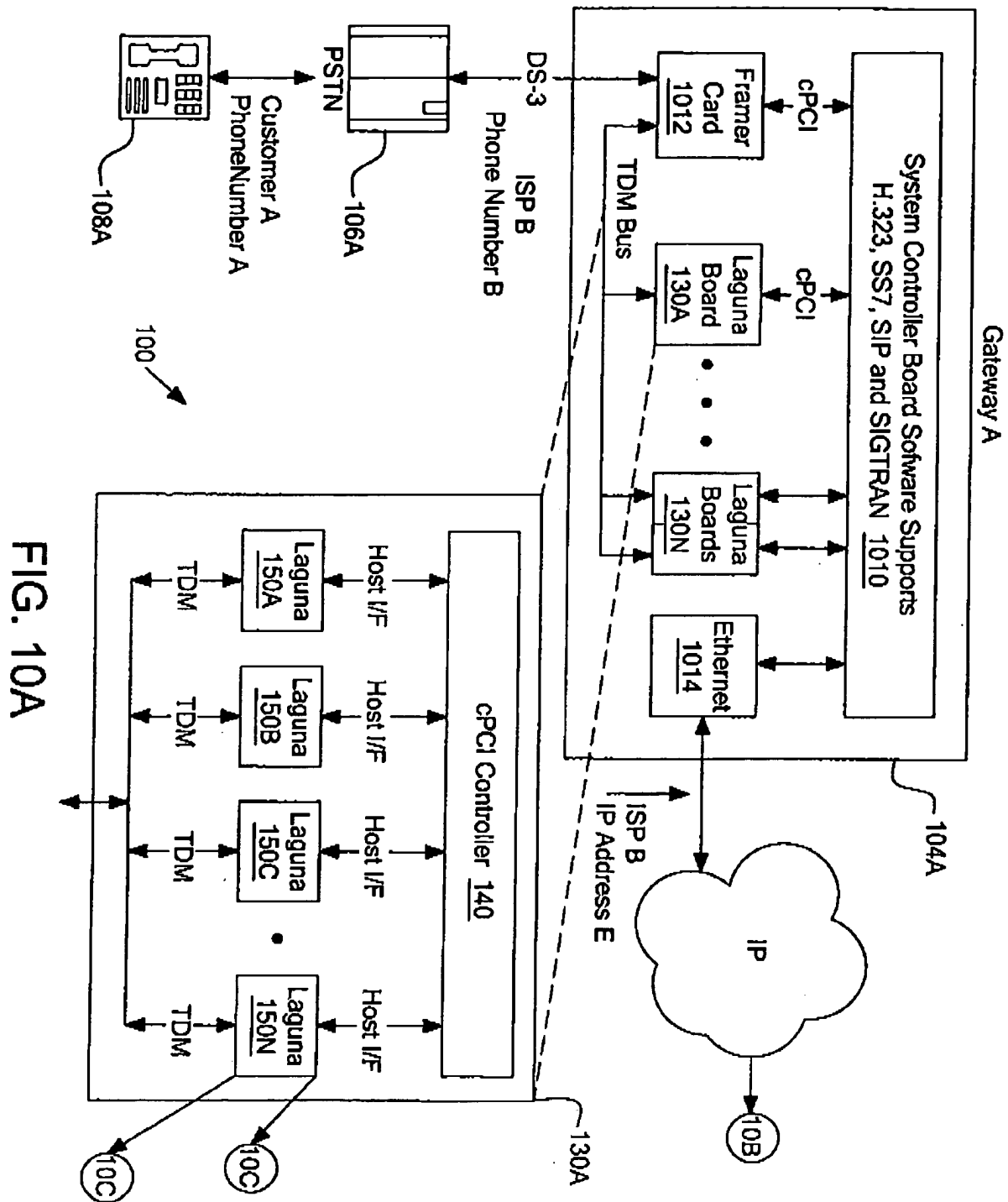


FIG. 9
(Prior Art)

Replacement Sheet 09/938104



Replacement Sheet 09/938104

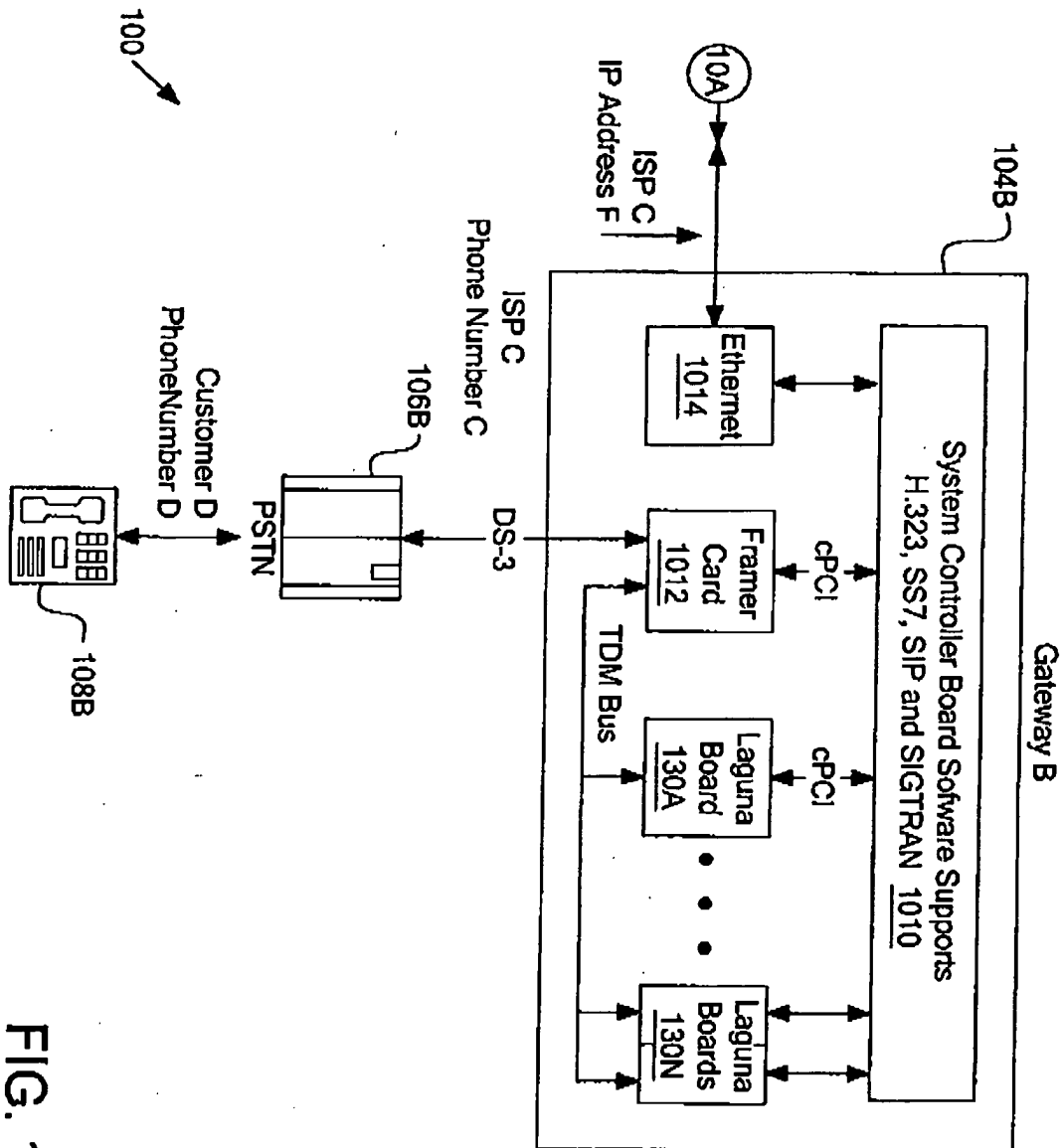
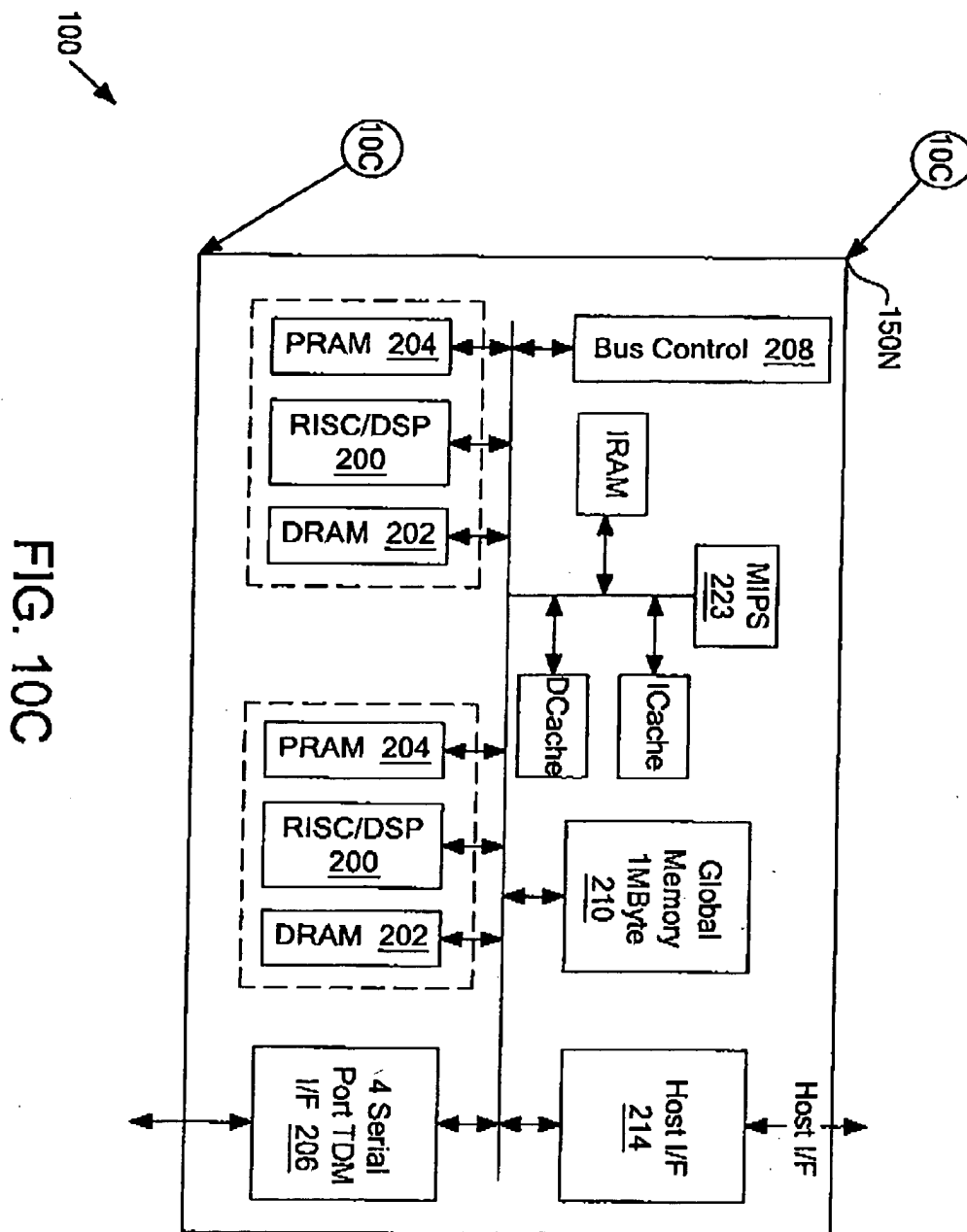


FIG. 10B

Replacement Sheet 09/938 104



Replacement Sheet 09/938 10f

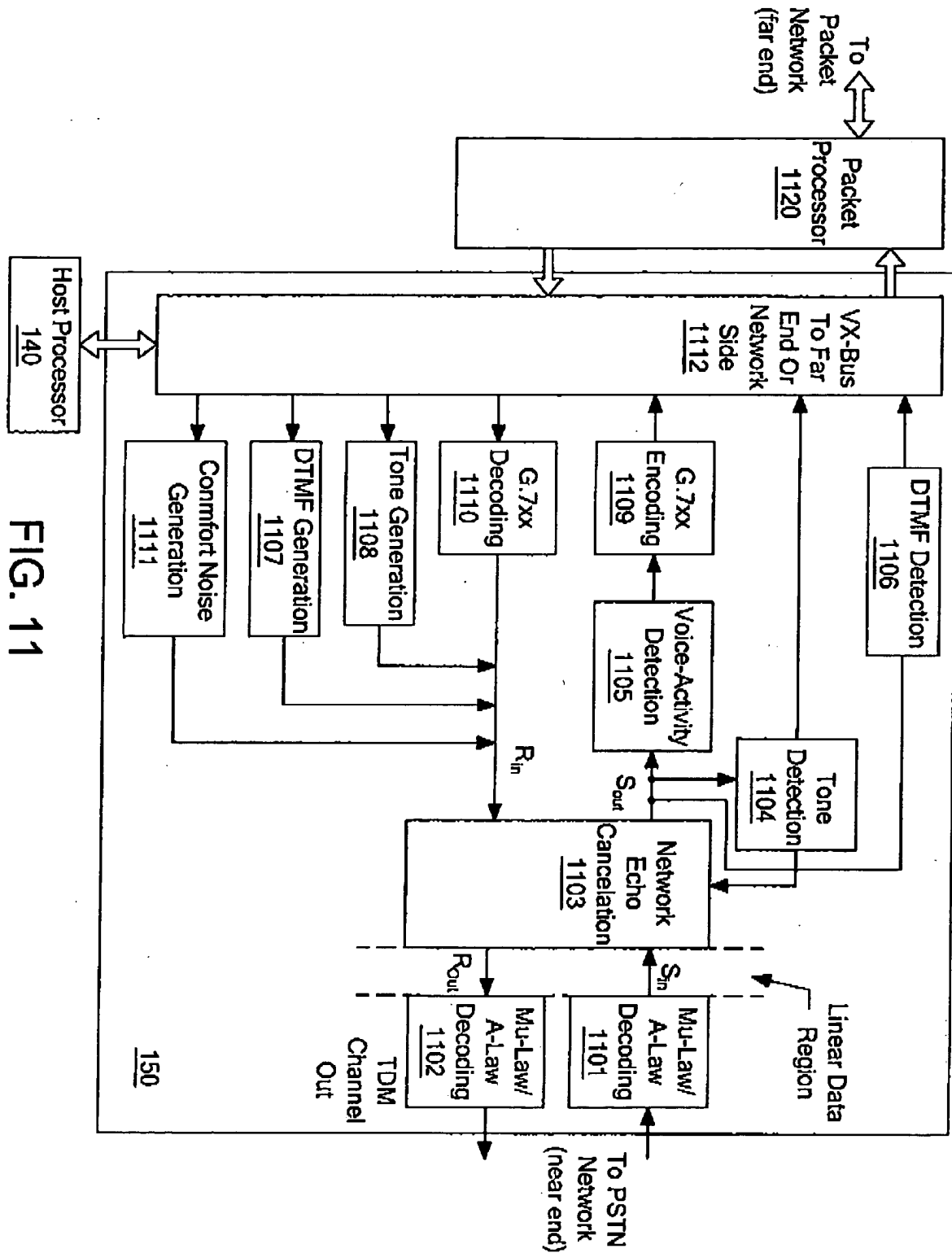


FIG. 11

Replacement Sheet 09/938 104

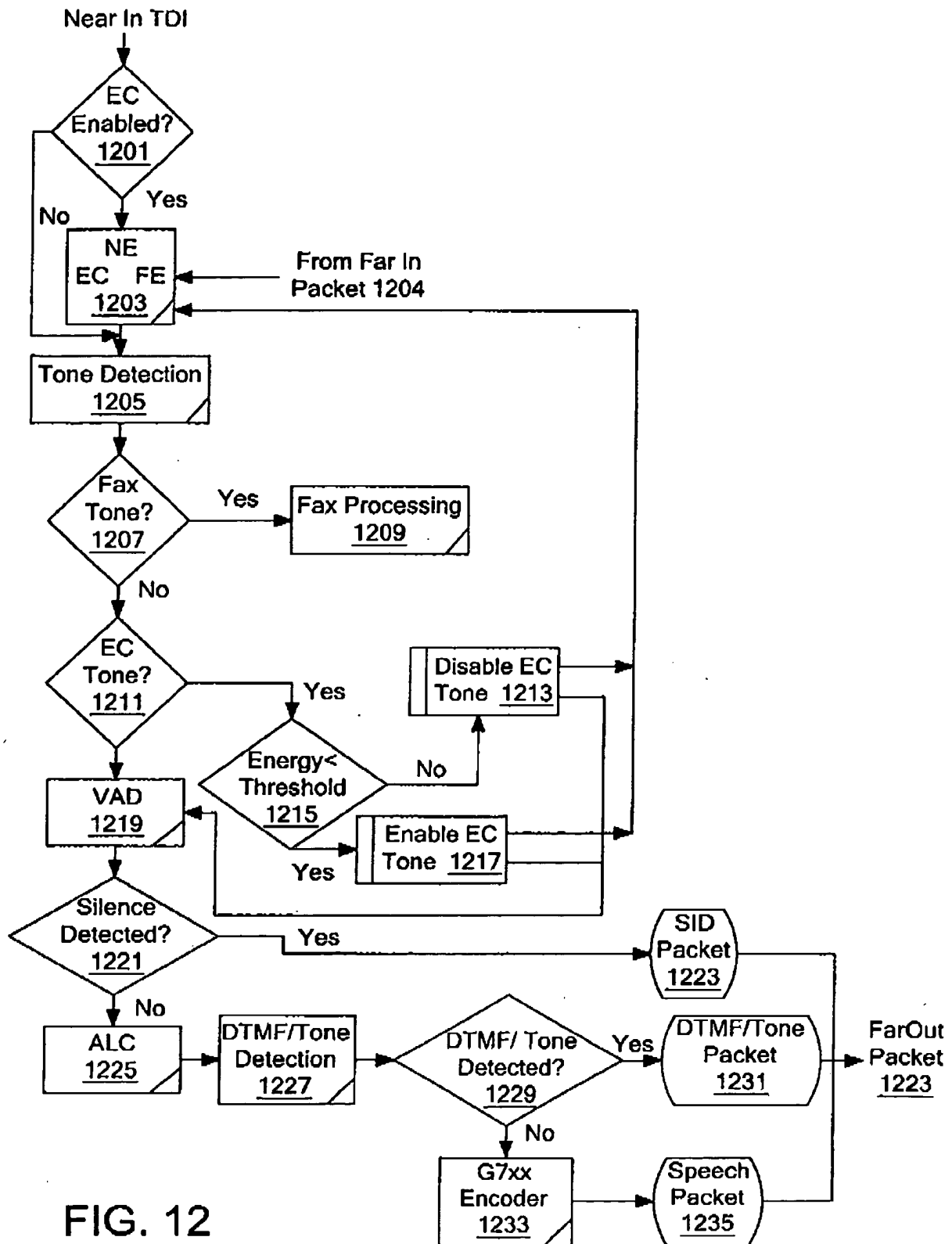


FIG. 12

Replacement Sheet 09/938104

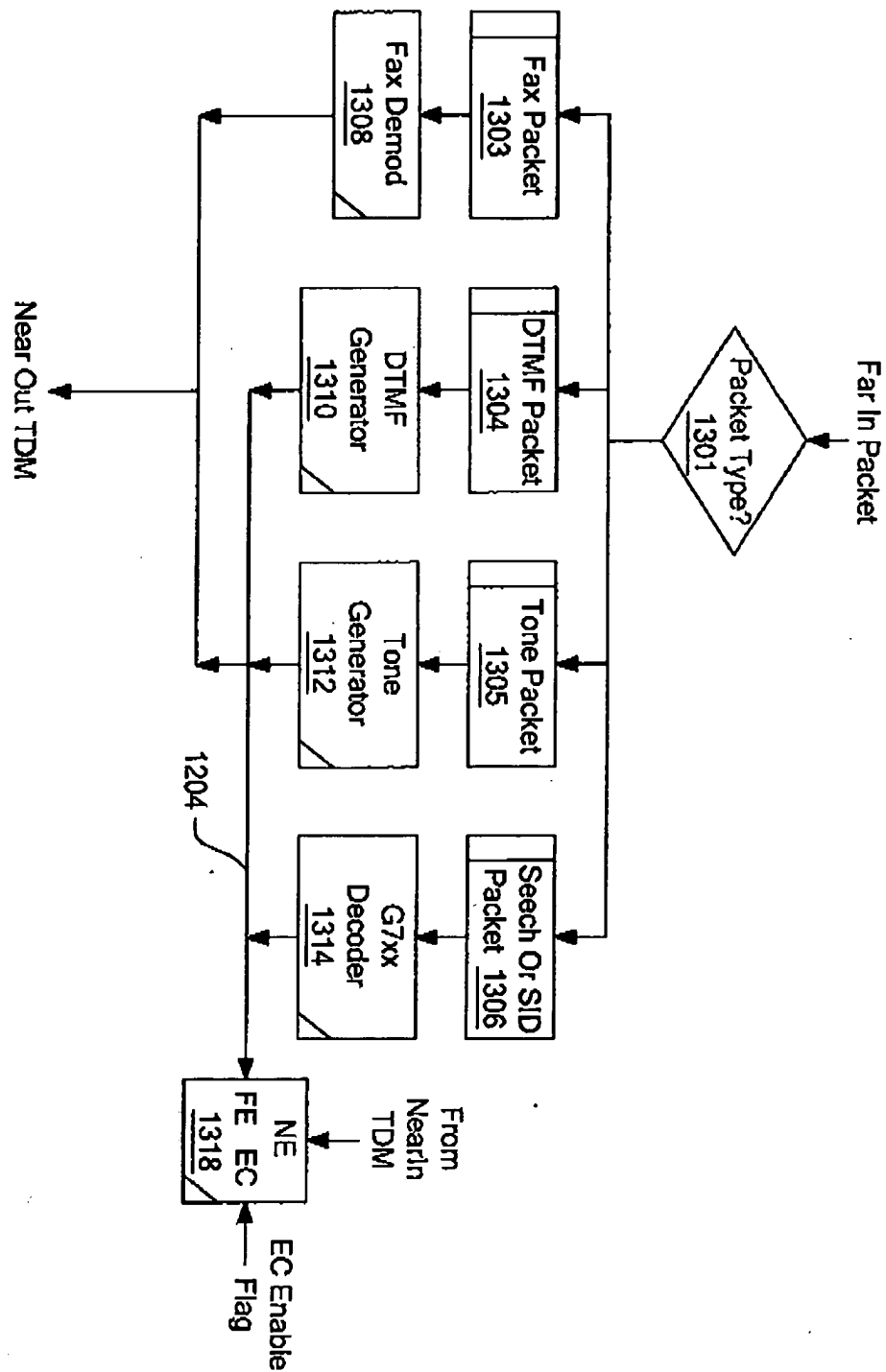
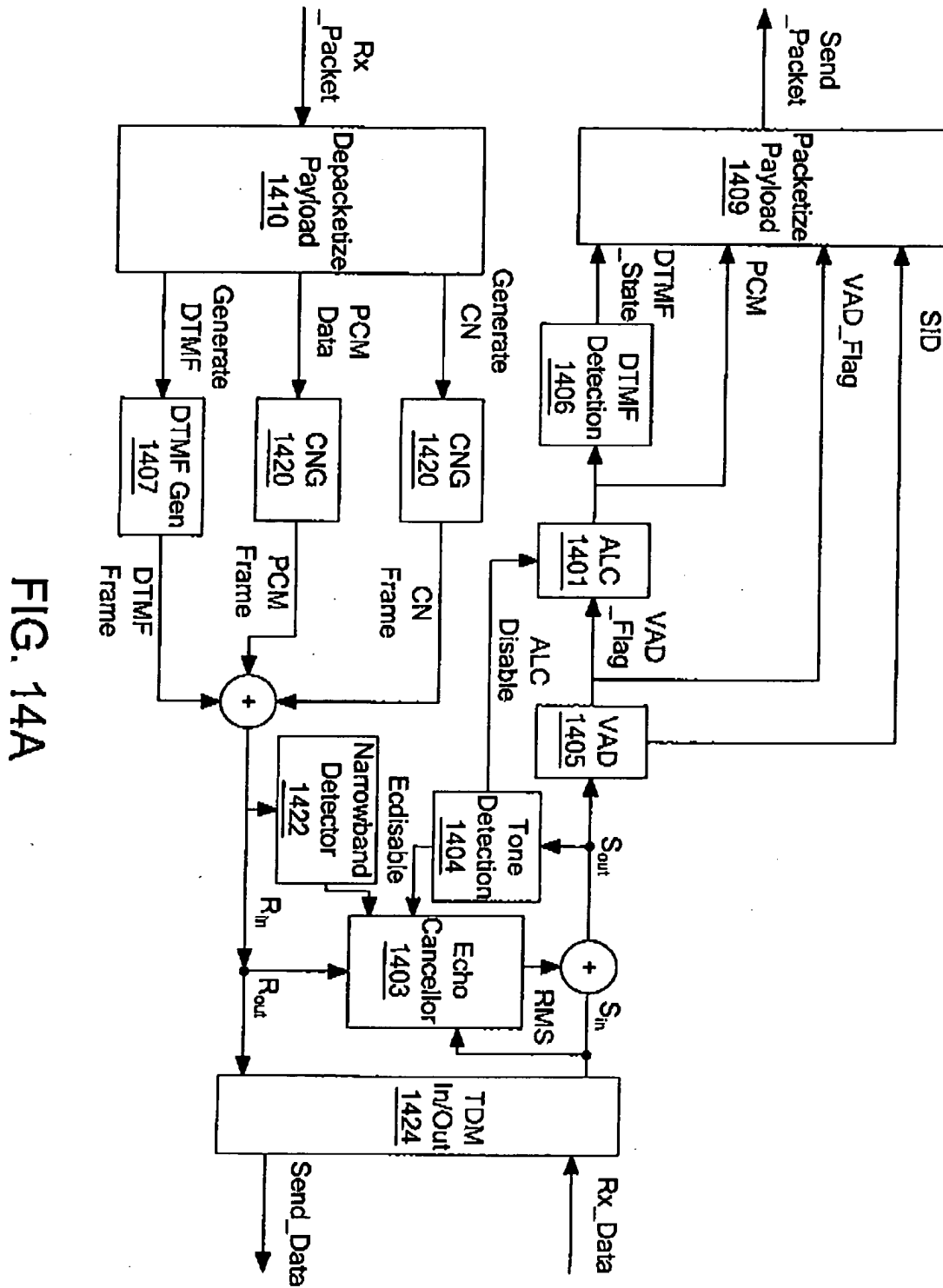


FIG. 13

Replacement Sheet 09/938 104



Replacement Sheet 09/938 104

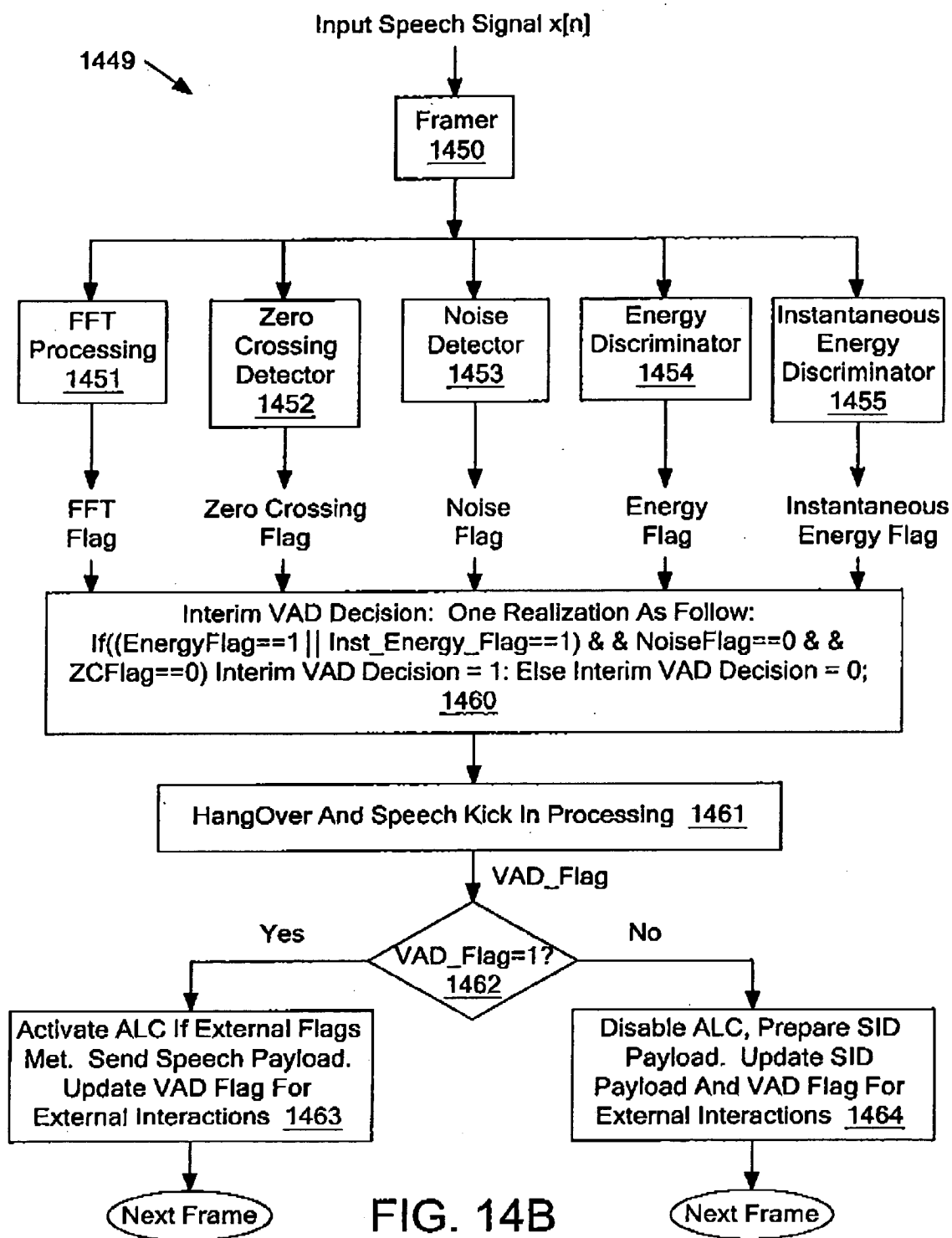


FIG. 14B

Replacement Sheet 09/938104

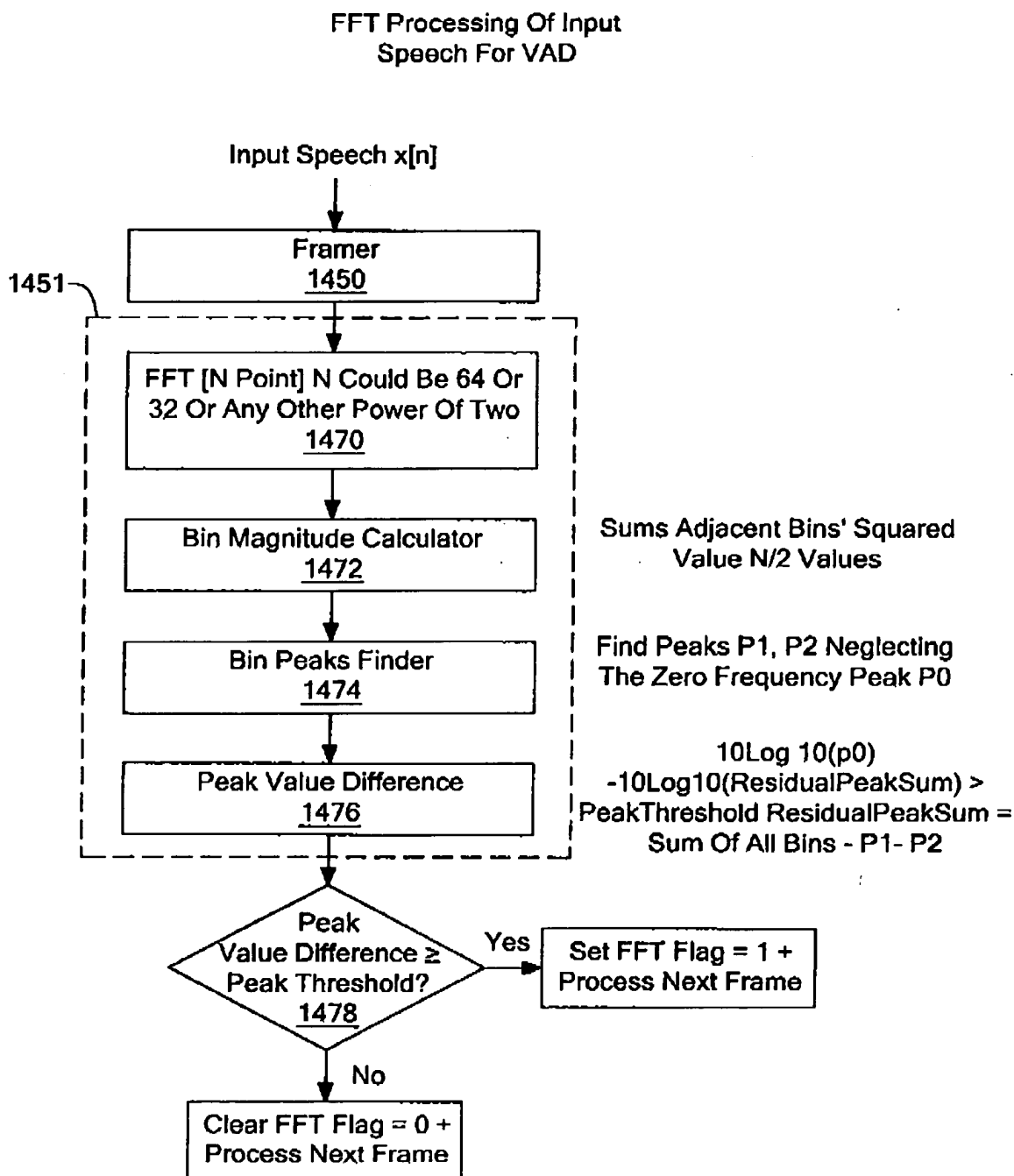


FIG. 14C

Replacement Sheet 09/938104

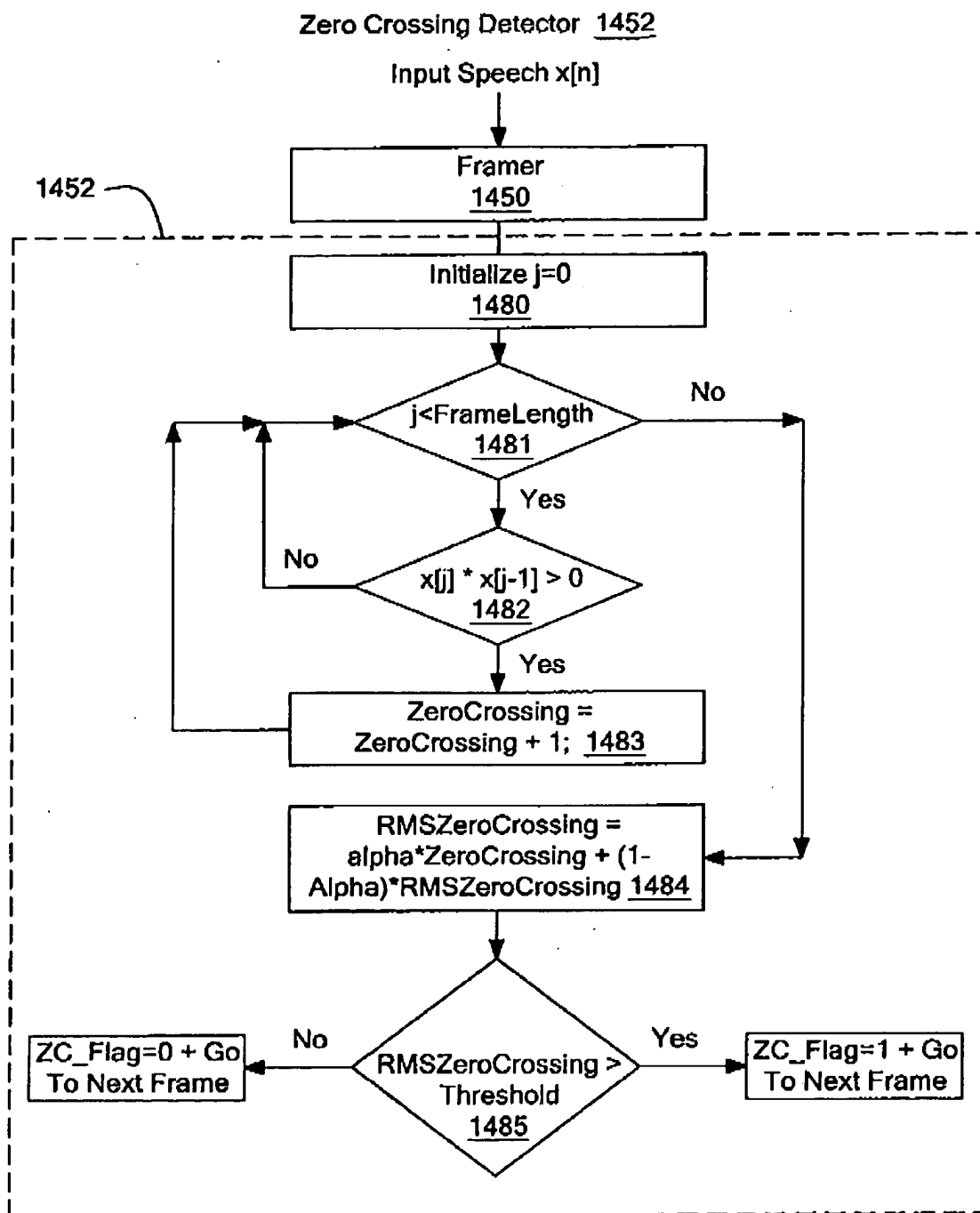


FIG. 14D

Replacement Sheet 09/938 104

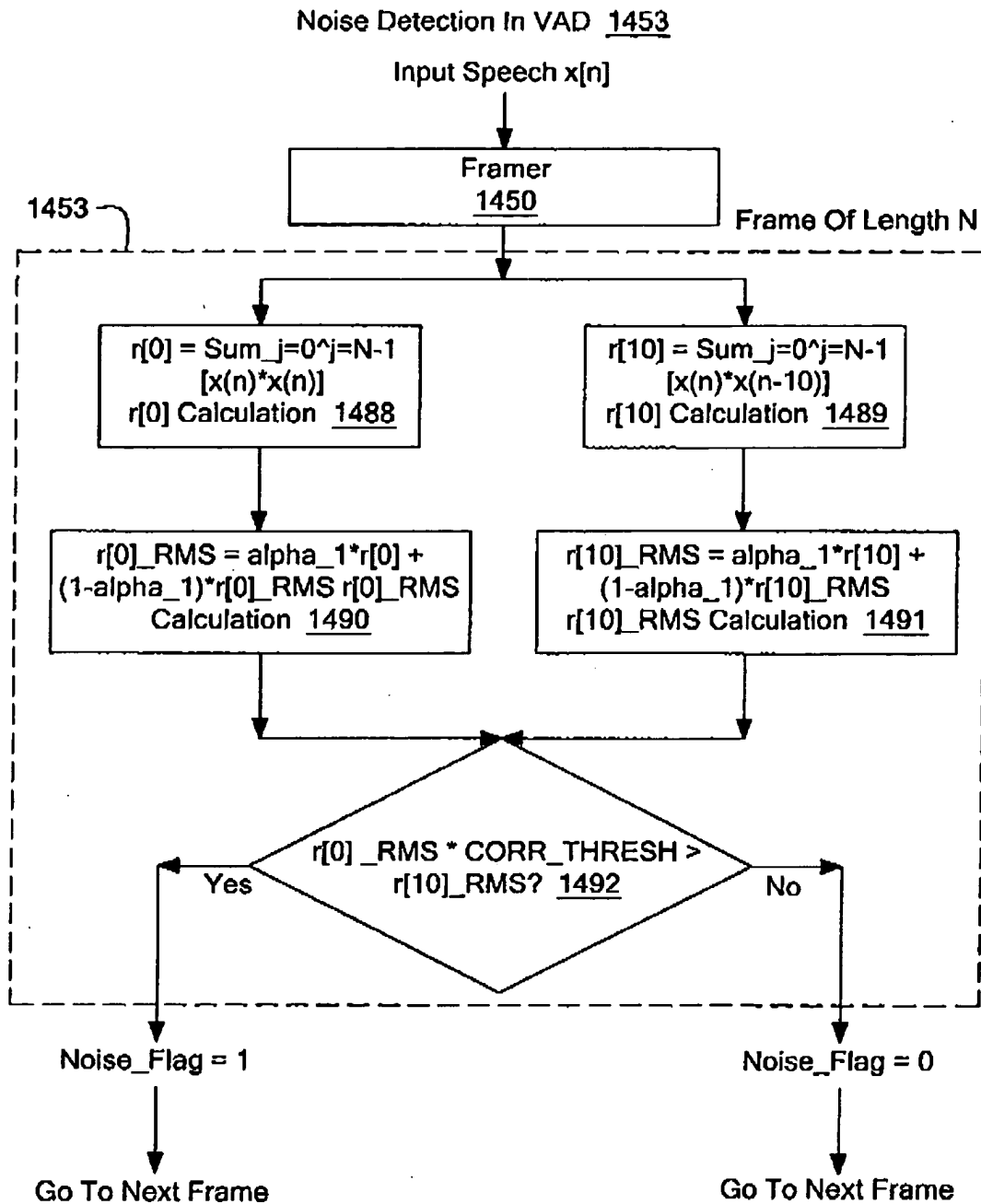


FIG. 14E

Replacement Sheet 09/938 104

Energy Discriminator 1454

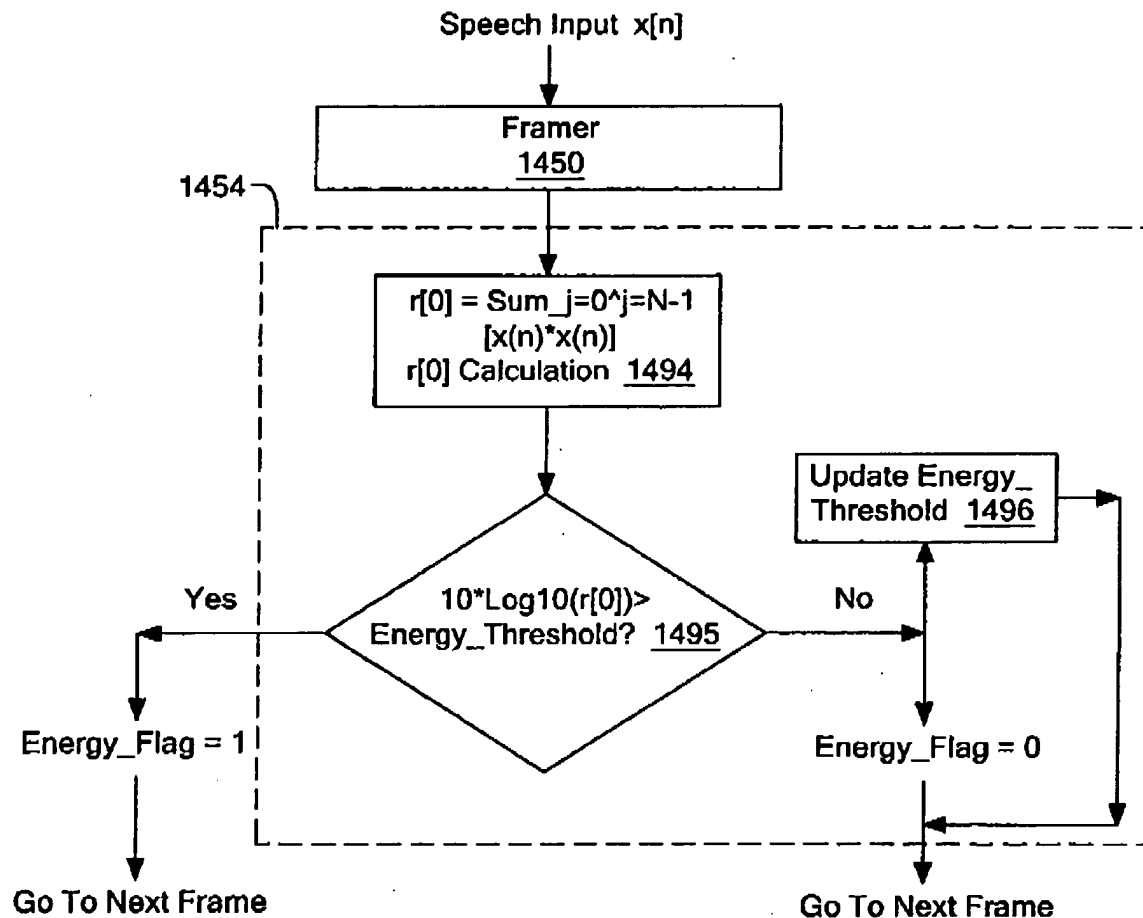


FIG. 14F

Replacement Sheet 09/938104

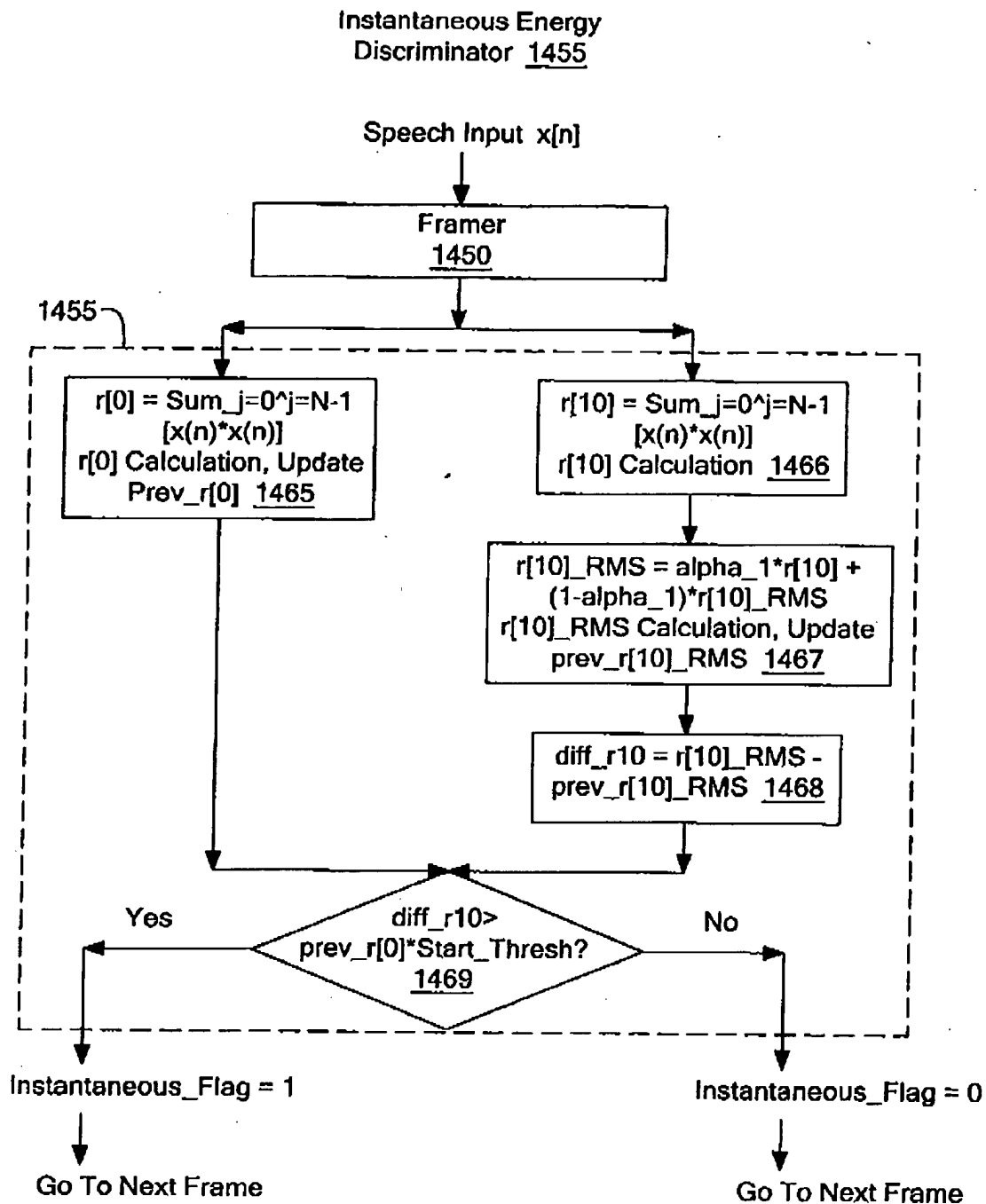


FIG. 14G

Replacement Sheet 09/938104

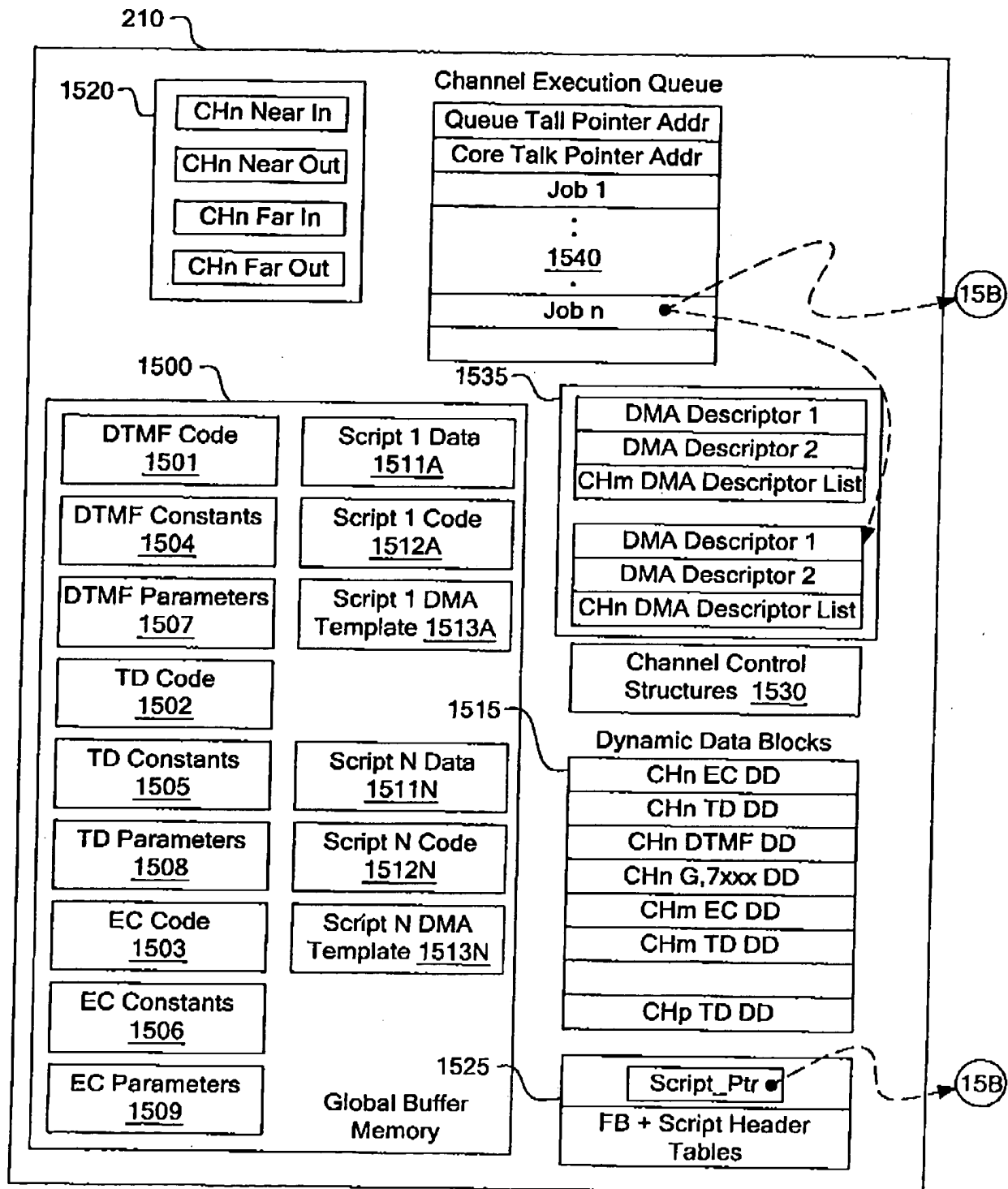


FIG. 15A

Replacement Sheet 09/938 104

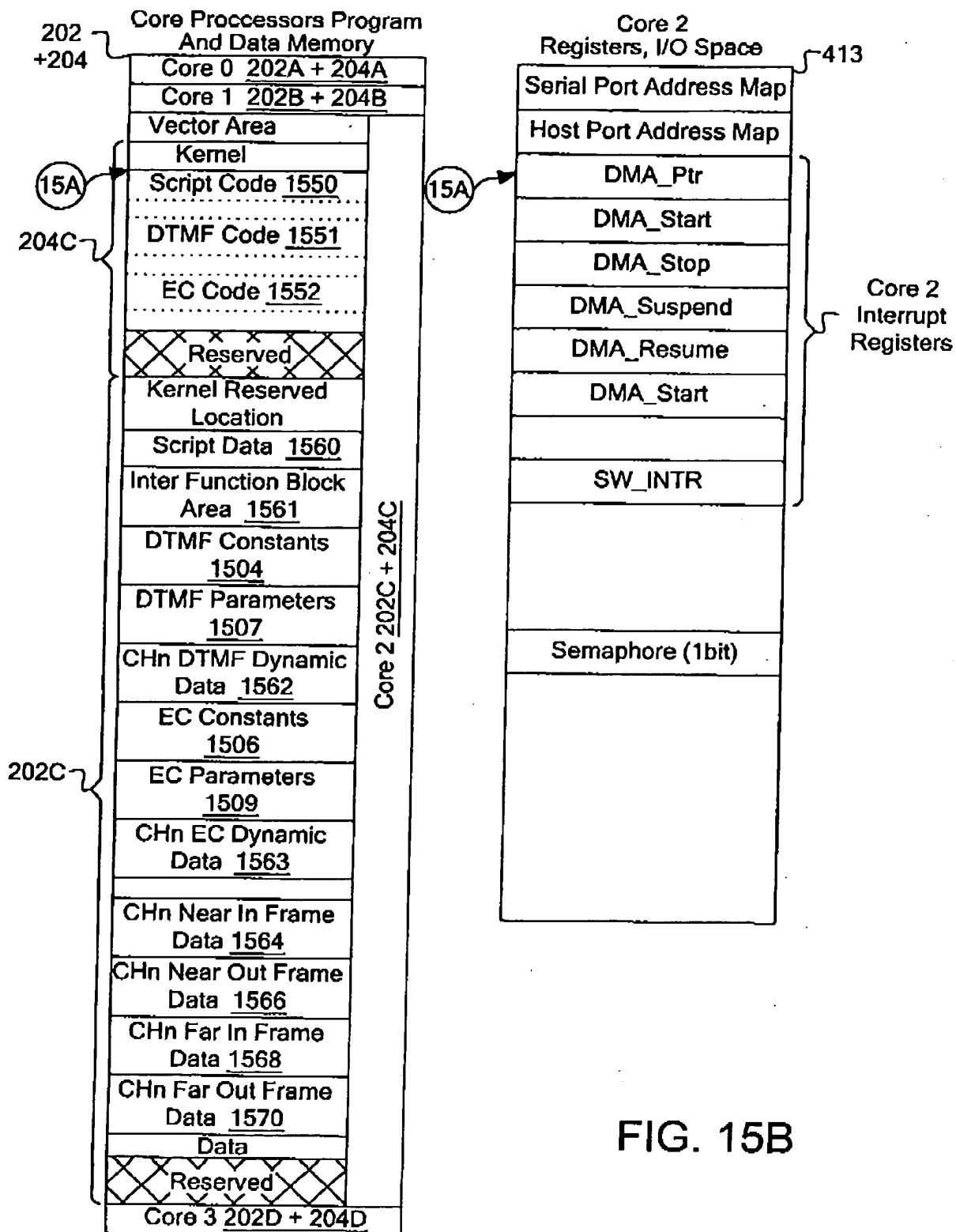


FIG. 15B

Replacement Sheet 09/938104

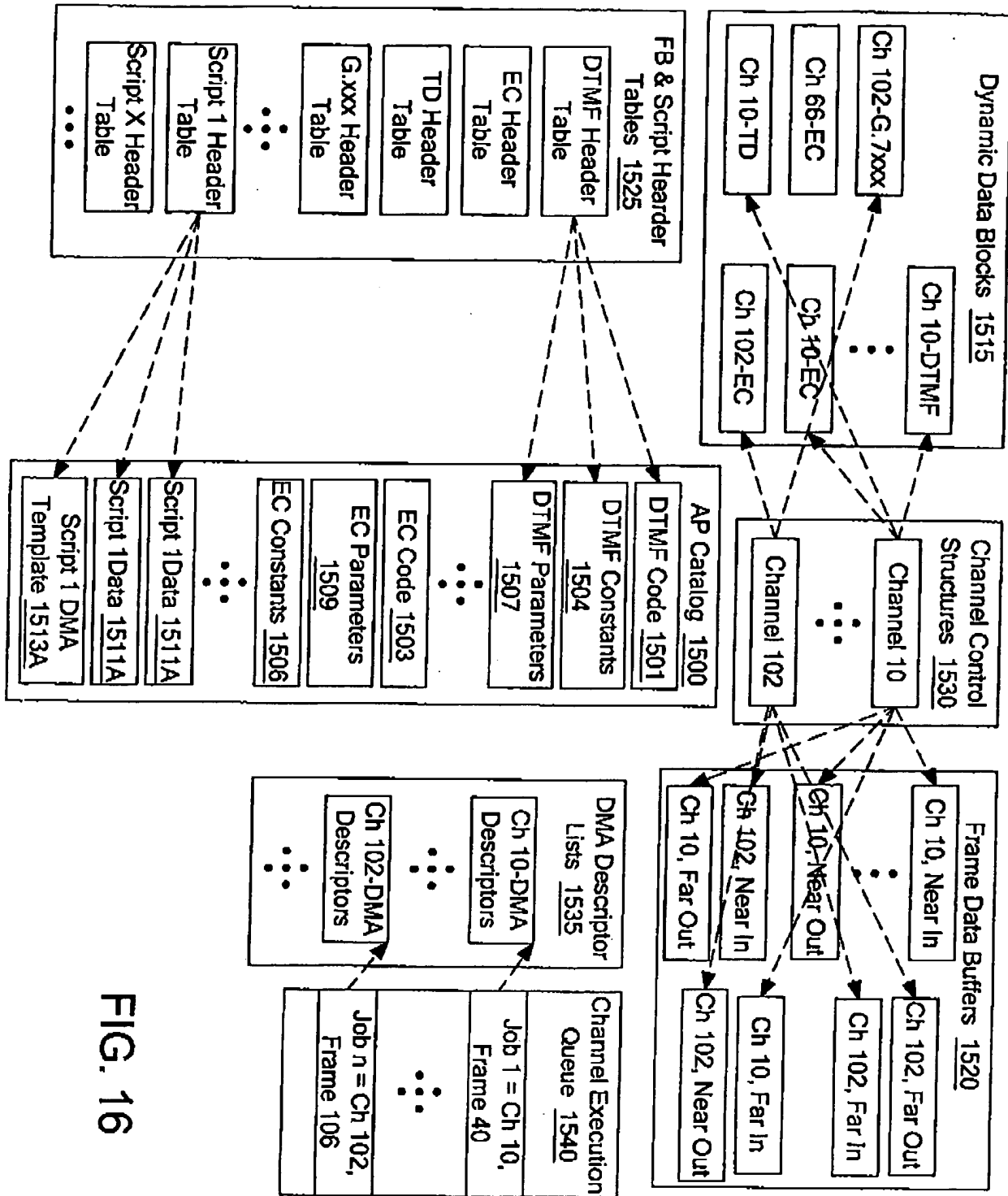


FIG. 16

Replacement Sheet 09/938604

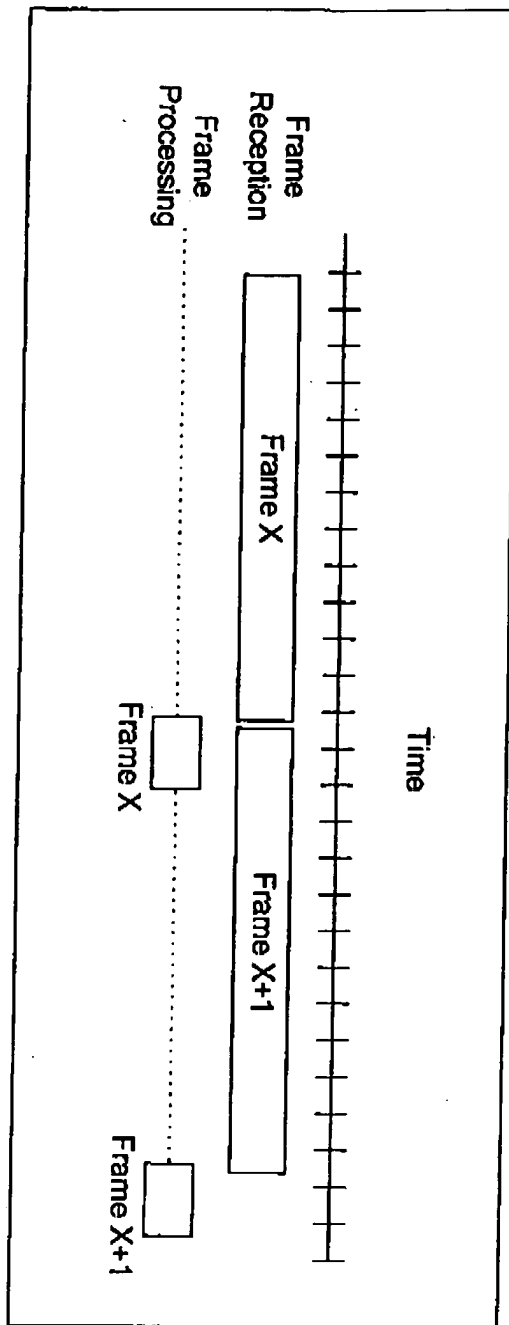


FIG. 17

Replacement Sheet 09/938104

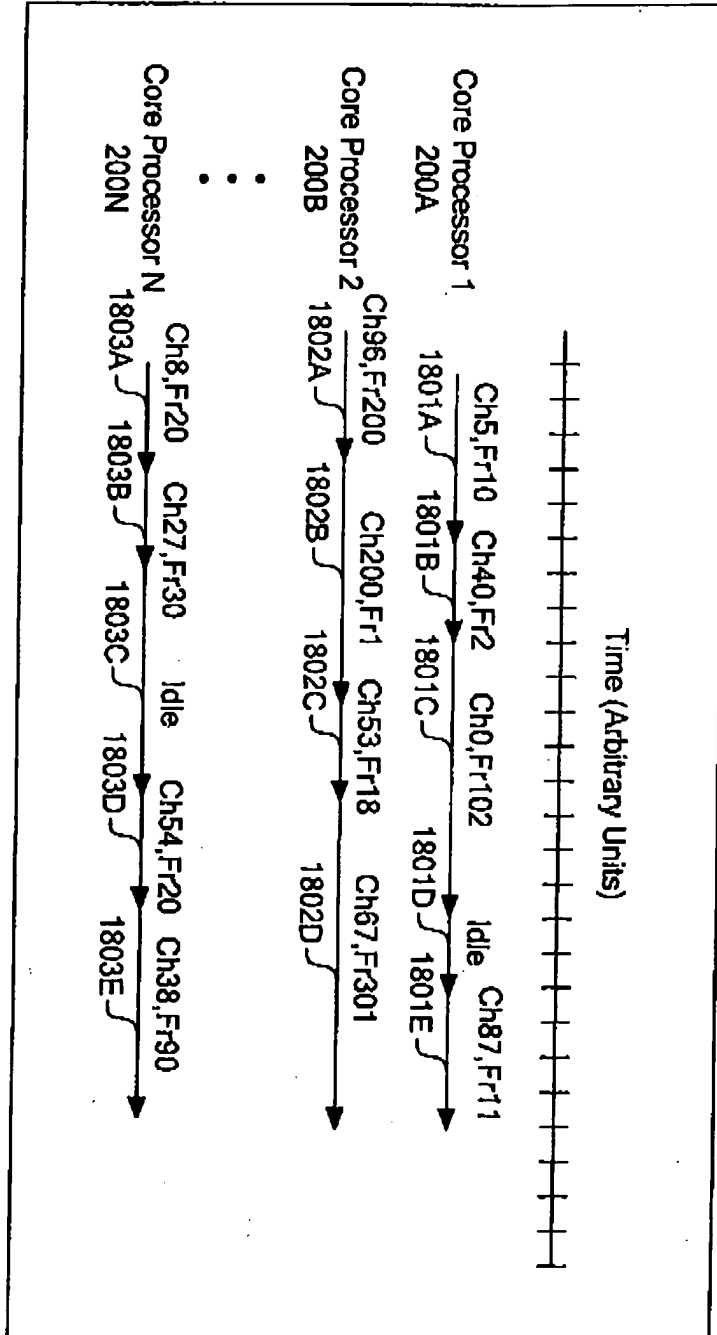


FIG. 18